

SCIOTO RIVER VALLEY SUSTAINABLE AGRICULTURE YOUTH DAY

2014 Annual Report

Project Overview

The Ohio State University Extension Office in Scioto County educated youth by taking them to a local farm and allowing them to participate in the growing and harvest on a small farm. This project provided students an opportunity to examine the way geography, weather and history have shaped the way they eat. This formed a basis for the students' search into the community's sustainable farming systems and practices. The project incorporated lessons with OSU Extension, Soil and Water staff and farmers. Focus was put on the importance of pollinators, production, soil and water.

Detailed Project Plan and Timeline

For humans and animals alike fall represents a time of bounty and cultivation. What we eat, how we obtain our food and how food is produced using sustainable growing practices was the focal point of this project. This project provided students an opportunity to examine the way geography, weather and history have shaped the way they eat. This formed the basis for the students' search into the community's sustainable farming systems and practices. After examining how the local farm and food production are an important focus, the project provided an opportunity for students to look at how local farms and food relates to their nutrition, diet, and physical activity. Students selected and harvested pumpkins grown by a local farmer directly from the field. While in the field, educators including farmers taught in-depth lessons on the importance of natural pollinators to the production of not only a pumpkin crop but all of the food crops that require insect pollination including apples and other tree fruit and strawberries. The science behind pollination was outlined. The biology of the honeybee was taught, as well as how bad weather such as rains, cloudy days, and wind can affect pollination. Students were taught that the amount of food produced relates directly to the farmers' profits. Additionally, students were taught to be good stewards of the environment and how they can protect our natural pollinators. With students being able to walk the production fields, and orchard, they gained a deeper appreciation for food, where it is obtained, how it is produced and what factors (i.e. weather, management, natural pollinators, beneficial insects, etc.) affect their daily diets.

Curriculum that was taught:

How was the Scioto River Valley formed?

- How have the Scioto River Valley agricultural communities evolved over time?
- What do we eat and where do we obtain our food?
- What geological evidence can be found in the Scioto River Valley?
- How did our ancestors farm in the Scioto River Valley in relation to present day agricultural practices?
- How do the soils affect plant growth and development in the Scioto River Valley?

Lessons taught included Ohio State University curriculum and lessons from "Nourishing the Planet in the 21st Century" were taught.

Assessment:

- A pre-assessment of students' existing knowledge related to geologic changes over time and the local food system was conducted at the beginning of the day.
- An inquiry was made by Educators into what students hoped to learn from the days lessons and program.
- A presentation of assessment criteria students was presented at the beginning of the program.

Connecting Program to Classroom:

- An eco-system scavenger hunt was conducted where students gathered and observed soil samples from each of the three eco-systems: forest, creek, and agriculture, and compared and contrasted the texture, color, moisture, and particle size.
- Students collected different types of soil at the farm and at school and Educators explained a percolation demonstration. Students felt the difference between sand, silt, and clay and discussed soil particle size. Students were asked to predict which soil that water flowed through the fastest and the slowest.
- Students ask the farmers how/where water flows on the farm. Using this information, the water flow of the farm was predicted when it rains and when it is dry.

- Erosion was discussed as a soil-forming factor and students wrote and discussed about where the soil started and where it ended.
- Students collected weather data at school in preparation for field trip noting the time and they collected and observed weather data on the farm and compared the changes. The farmers, Paul and Leanne Fuhrmann, described the climate on the farm – how explained how the geography affect the weather and climate on their farm in relation to the crops that they grow.
- Crop production variables such as nutrients, light, and water and how these affect the growth of the seeds and plants was taught and discussed.
- Students participated in a pollination game and discussion in which they kinesthetically learned how and why bees pollinate flowers and how this pollination is critical to crop production and the food that we eat.
- A beekeeper taught students about the work of beekeepers and the importance of pollinators.
- Students observed and examined animals that live on the farm and in the garden and described how their lives are influenced by other animals, plants, weather, and climate.

Timeline:

- 1)August & September 2014- student permission slips were distributed, signed and returned to school officials
- 2)September 2014- field lesson plans were prepared by Educators and in field props were assembled.
- 3)October 2014- School field trip was conducted October 24th.
- 4)All students' in-class reports were prepared and turned in to teachers by October 31.
- 5)Report of project observations and impacts assembled, written.
- 6)Annual report submitted to SARE December 31st 2014.

Resources Used

Lessons were developed by the Extension agriculture, 4-H and family and consumer science staff. They worked with a local farm family, Fuhrmann Orchards LLC , Paul and LeAnne Fuhrmann and their family and the Scioto County Soil and Water Conservation District's educational staff. The Agriculture and Natural Resources Educator created and taught lessons related to pollination. Soil and Water Education Specialist performed soil tests and taught about erosion and water quality. Additional lessons from the Smithsonian Institution's "Nourishing the Planet in the 21st Century" middle school science curricula were incorporated into the project. The curriculum was written to address the need for feeding the world in a sustainable manner, while addressing the issue of so many people taking their food for granted because they are generations removed from the farm. The 4-H Educator and Program Coordinator taught lessons out of the "Nourishing the Planet ..." series.

Outreach

The impacts and information learned from this program have been shared at the 2014 Ohio State University Extension annual Conference in Columbus, Ohio December 9-11 and proposals will be submitted to present national posters and presentations to share tips for replication and impacts from the program. The Extension staff also presented a session to the other program area educators in their Ohio Valley Extension Education and Research Area on November 7, 2014. .

Youth participants and Educators used iPads to take pictures and to make videos of portions of the project. These pictures and videos were edited posted to OSU Extension Scioto County social media sites and web pages. The youth program will also be submitted for Ohio State Extension state and regional award recognition in 2015. The production of the videos and pictures added a technology and marketing component to the program that is and will continue to be used to help the youth understand the importance both play in promoting agriculture. The local media was contacted to cover the program in the Education Section of the newspaper.

Student and Community Impact

Impact was made by showing youth that not only is it important to understand where food comes from and what it is comprised of, but that they must also make healthy and wise personal decisions regarding their food intake.

Impacts were measured utilizing pre- and post-test surveys with the youth participants, as well as through observation from the educators, staff, teachers and farmers involved with the project. Teachers were

given a survey at the end of the project allowing them to report any changes in knowledge and/or behavior they have witnessed.

Impacts of this program were reported in OSU Extension Scioto County highlights, and have been shared during outreach efforts with peers. Additionally, a web site code was provided to teachers for all outreach materials produced from the program so that the information presented at the Youth Day could be used in future classroom instruction and reference.



Youth Day was held at Fuhrmann Orchards in Wheelersburg, Ohio (Scioto County, Ohio)



Farm owner LeAnne Fuhrmann presenting lesson on produce processing



LeAnne Fuhrman Farm owner teaching farm production lesson



Brad Bergefurd Extension Educator and Beekeeper teaching beekeeping and pollination lesson and leading the pollination game



Brad Bergefurd Extension Educator teaching botany lesson



Scioto County Soil and Water Educator Kate Soward teaching soil formations and water percolation lesson



Extension Educator Brad Bergefurd teaching plant management



Farm owner Paul Fuhrmann teaching soil quality lesson



Kate Sowards Soil and Water Conservation Educator teaching Scioto River Valley Geologic formations



Paul Fuhrmann farm owner teaching farm climate and farm weather lesson



Paul Fuhrmann teaching the students of plant nutrition and water requirements of crops he grows



Farm owners Paul and LeAnne Fuhrmann welcomed the students and teachers and presented an overview of their farm and laid out the learning objectives for the day



"In field" lessons were taught by OSU Extension & Scioto County Soil and Water Educators and the farm owners.